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BEST AVAILABLE COPYAMENDMENT TO THE CLAIMS

1. (currently amended) A method of managing a buffer random access memory, the buffer random access memory having a first portion reserved ~~allocated~~ for a defect table and a second portion reserved ~~allocated~~ for data caching, the method comprising:

determining actual memory space of the first portion of the buffer random access memory occupied by the defect table to identify unused memory space of the first portion;
and

reallocating the unused memory space of the first portion of the buffer random access memory for use in data caching; and

swapping locations of the defect table and the unused memory space in the first portion of the buffer random access memory such that the unused memory space of the first portion of the buffer random access memory is closest to the second portion of the buffer random access memory reserved for data caching.

2. (original) The method of claim 1, wherein determining the actual memory space of the first portion of the buffer random access memory further comprises:

obtaining information on a total number of defects identified on a storage media; and
calculating the actual memory space of the first portion of the buffer random access memory occupied by the defect table based upon the total number of defects identified on the storage media.

3. (cancel)

4. (currently amended) The method of claim 31, and prior to swapping locations of the defect table and the unused memory space in the first portion of the buffer, further comprising coding variables defined in the defect table as address dynamic changeable.

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5. (original) The method of claim 4, wherein swapping locations of the defect table and the unused memory space in the first portion of the buffer random access memory further comprising dynamically changing addresses of the variables defined in the defect table to obtain new defect table parameters.

6. (currently amended) The method of claim 5, and further comprising saving the new defect table parameters and new data cache parameters on a storage media.

7. (currently amended) The method of claim 6, wherein the storage media is a data storage disc of a disc drive data storage system, and wherein saving the new defect table parameters and new the data cache parameters on the storage media further comprises storing the new defect table parameters and the data cache parameters in reserved cylinders of the data storage disc.

8. (original) A controller configured to implement the method of claim 1.

9. (currently amended) A mass storage device comprising:

a storage media storing a defect table and data cache parameters;

a buffer random access memory having a first portion ~~reserved-allocated~~ for the defect table and a second portion ~~reserved-allocated~~ for data caching, the defect table and the data cache parameters being uploaded into the buffer random access memory from the storage media; and

a controller operably coupled to the storage media and to the buffer random access memory, the controller configured to implement the steps of:

determining actual memory space of the first portion of the buffer random access memory occupied by the defect table to identify unused memory space of the first portion; and

reallocating the unused memory space of the first portion of the buffer random access memory for use in data caching; and

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swapping locations of the defect table and the unused memory space in the first portion of the buffer random access memory such that the unused memory space of the first portion of the buffer random access memory is closest to the second portion of the buffer random access memory reserved for data caching.

10. (original) The mass storage device of claim 9, wherein the controller is configured to determine the actual memory space of the first portion of the buffer random access memory by implementing the steps of:

obtaining information on a total number of defects identified on the storage media; and
calculating the actual memory space of the first portion of the buffer random access memory occupied by the defect table based upon the total number of defects identified on the storage media.

11. (canceled)

12. (currently amended) The mass storage device of claim 9, wherein variables defined in the defect table are coded as address dynamic changeable.

13. (original) The mass storage device of claim 12, wherein the controller is configured to implement the step of swapping locations of the defect table and the unused memory space in the first portion of the buffer random access memory by dynamically changing addresses of the variables defined in the defect table to obtain new defect table parameters.

14. (currently amended) The mass storage device of claim 13, wherein the controller is further configured to implement the step of saving the new defect table parameters and new the data cache parameters on a storage media.

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15. (new) A method of managing a buffer random access memory, the buffer random access memory having a first portion allocated for a defect table and a second portion allocated for data caching, the method comprising:

determining actual memory space of the first portion of the buffer random access memory which is actually occupied by the defect table in order to identify unused memory space of the first portion; and
reallocating the unused memory space of the first portion of the buffer random access memory for use in data caching.

16. (new) A controller configured to implement the method of claim 15.

17. (new) A mass storage device comprising the controller of claim 16.